

**Notice of Allowability**

Application No.

10/669,714

Examiner

Yubin Hung

Applicant(s)

HASHIMOTO ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 12/29/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant's representative Mr. Tom Brown on March 28, 2007:

2. **The application has been amended as follows:**

#### Claim 1

- Line 5: replace "frequency decomposition" with "frequency decomposition along a first and a second dimensions"
- Line 8: replace "the frequency decomposition and encoding" with "a one-dimensional frequency decomposition and an encoding"
- Line 9: replace "further conducting" with "further conducting the"

#### Claim 3

- Line 6: replace "one-dimensional transform" with "the one-dimensional frequency decompositions"

Claim 4

- Line 6: replace "one-dimensional transform" with "the one-dimensional frequency decompositions"

Claim 7

- Replace claim 7 with the following:

7. The volume data encoder according to claims 2 or 5, comprising means for compressing information held in the detection result storage means according to claim 2 or the classifying result storing means according to claim 5, respectively,

wherein the compressed result is added to encoded data.

Claim 8

- Line 1: Replace "claim1" with "claim 1"

***Allowable Subject Matter***

3. Claims 1-10 as amended above are allowed.
4. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, closest art of record does not disclose, teach or suggest all limitations. Specifically,

- Menegaz et al. ("Object-based Coding of Volumetric Medical Data," Proc. 1999 ICIP, Vol. 3, 24-28 Oct. 1999, pp. 920-924) and Kamath et al. ("Compression and Accelerated Rendering of Volume Data Using DWT," SPIE Vol. 3457, July 1998, pp. 296-303) disclose using wavelet transform-based coding approaches that process regions of interest differently
- K.J. Jones ("3-D Wavelet Image Processing for Spatial and Spectral Resolution of LANDSAT Images," SPIE Vol. 3391, 1998, pp. 219-224) discloses using 2-D DWT for spatial (x,y) resolution and 1-D DWT for spectral (z) resolution
- Dekel et al. (US 6,314,452) only encodes transform coefficients in regions of interest for transmission
- Easwar (US 7,092,965) detects and sets low-priority coefficients to zero for coding efficiency
- Miyazaki et al. (US 6,128,592) adjusts frequency decomposition output based on available encoding time

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- Zeng et al. (US 7,035,473) discards the information represented by the less significant bitplanes (i.e., they are not encoded) when necessary
- Park et al. (US 7,068,848) and Kato (US 6,665,446) both detect regions of interest from DWT coefficients and code them separately

However, none of the above-cited references, alone or in combination, disclose, teach or suggest not conducting a one-dimensional frequency decomposition along a third dimension for detected data portions when encoding volume data.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Contact Information***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (571) 272-7451. The examiner can normally be reached on 7:30 - 4:00.

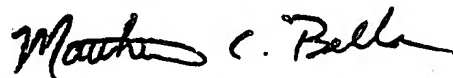
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on (571) 272-7778. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yubin Hung  
Patent Examiner  
Art Unit 2624  
March 30, 2007



MATTHEW C. BELLA  
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